In the Claims

1. A method of monitoring operation of an automated tool comprising

positioning in close proximity to said automated tool at least one wireless sensor,

energizing said wireless sensor by energy transmitted in space to said sensor,

monitoring at least one condition of said automated tool by said sensor,

emitting signals containing sensor information in space to a microprocessor,

processing said sensor information in said microprocessor, and

in the event that the processor determines that said automated tool has departed from desired conditions of operation issuing a responsive signal.

2. The method of claim 1 including

employing RF energy to energize said sensor.

3. The method of claim 1 including

emitting signals containing information from said microprocessor to said sensor.

4. The method of claim 2 including

converting said RF energy to DC power for energizing said sensor.

5. The method of claim 1 including

securing said sensor to said automated tool.

6. The method of claim 5 including

securing said sensor within a recess in said automated tool.

7. The method of claim 6 including

said sensor being operatively associated with at least one antenna for simplex power reception and duplex communication of information.

8. The method of claim 7 including

said antenna formed on an integrated circuit.

9. The method of claim 7 including

said antenna secured to a printed circuit board.

10. The method of claim 1 including

employing said method to monitor a said automated tool performing an operation on a workpiece.

11. The method of claim 10 including

said at least one sensor being in a microelectromechanical system device.

12. The method of claim 11 including

employing a plurality of said sensors in said method.

13. The method of claim 11 including

measuring by said microelectromechanical system device at least one motion related characteristic of said automated tool.

14. The method of claim 10 including

employing as said automated tool a progressive stamping press operating on a metal sheet workpiece.

15. The method of claim 11 including

sensing by said microelectromechanical system device characteristics of said automated tool related to forces existing in the operation of said automated tool.

16. The method of claim 13 including

monitoring said automatic tool properties by said microelectromechanical system device during at least a portion of a cycle of operation of said automated tool.

17. The method of claim 11 including

monitoring at least one acceleration related characteristic of said operating automated tool.

18. The method of claim 1 including

transmitting said sensor signals to said microprocessor employing an RF carrier.

19. The method of claim 18 including

transmitting said sensor information as digital information.

20. The method of claim 19 including

employing in said microelectromechanical system device an inertial sensor.

21. The method of claim 18 including

transmitting said sensor signals only if a monitored condition departs from a desired threshold value.

22. The method of claim 14 including

employing said method to monitor misfeed.

23. The method of claim 1 including

selecting said responsive signals from a group consisting of an automated tool shutdown, alarm signal and data delivery signal.

24. The method of claim 10 including

securing said sensor to said workpiece.

25. Apparatus for monitoring operation of an automated tool comprising

an automated tool,

a source of energy for energizing at least one wireless sensor by energy transmitted in space,

at least one wireless sensor for monitoring a condition of said automated tool and emitting sensor signals through space,

a microprocessor for receiving said sensor signals and determining if a departure from a desired characteristic exists and if so emitting a responsive signal.

26. The apparatus of claim 25 including

said at least one wireless sensor being in a microelectromechanical system device.

27. The apparatus of claim 26 including

said apparatus having a plurality of said sensors.

28. The apparatus of claim 25 including

said automated tool being a progressive stamping press for performing operations on a metal sheet workpiece.

29. The apparatus of claim 26 including

said microelectromechanical system device being structured to monitor force related characteristics.

30. The apparatus of claim 28 including

said microprocessor responsive signals being selected from the group consisting of an automated tool shutdown signal, an alarm signal, and a data delivery signal.

31. The apparatus of claim 25 including

said microelectromechanical system device sensors being structured to monitor an acceleration related condition.

32. The apparatus of claim 25 including

said source of energy being a source of RF energy.

33. The apparatus of claim 32 including

a rectifier operatively associated with said sensor for converting said RF energy to DC power for said sensor.

34. The apparatus of claim 33 including

a simplex power, duplex communication antenna operatively associated with said sensor.

35. The apparatus of claim 34 including

a sensor assembly including said rectifier, said antenna and said sensor.

36. The apparatus of claim 35 including

said sensor assembly secured within a recess in said automated tool.

37. The apparatus of claim 25 including

said sensor being structured to be secured to a workpiece.